



# Barth Smelting Corporation Site

Newark, New Jersey

## REMOVAL ACTION



## Barth Smelting Site Investigation

- 1852 - 1910: New Jersey Zinc & Iron Company operated on a large area of land from the Passaic River to the Morris Canal Bed
- 1946: Barth Smelting Corp. began operations on a portion of 99 Chapel Street
- 1947: Terrell Homes constructed on property formerly owned by New Jersey Zinc





## Barth Smelting Site Investigation

- December 2012: 22 soil borings installed in 3 separate areas:
  - Immediate playground area near play equipment
  - Western grassy area near dumpsters
  - Eastern grassy area closer to Chapel Avenue
- Soil samples collected from each boring:
  - 0-1 inches
  - 1-6 inches
  - 6-12 inches
  - 12-18 inches
  - 18-24 inches





## Barth Smelting Site Investigation





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## Barth Smelting Site Investigation

- High concentrations of lead found in playground
- Lead ranged from 140 ppm to 6,030 ppm in top 1" of soil
  - Highest concentration in Eastern playground area
  - Average concentration in top 1" = 1,046 ppm
- Playground area fenced off to restrict access to lead-contaminated soil





## Barth Smelting Site Investigation

- **What is a PPM?**
  - PPM stands for Parts Per Million
  - A scientific measurement of the amount of a pollutant or contaminant in a sample
  - “Parts per million” or “ppm” means out of a million
- **What do we compare soil lead levels to?**
  - 400 ppm is the EPA screening level for lead in residential soils



**Former Barth Smelting facility**



- March 2013: Soil samples collected from 99 Chapel Street
- 42 soil samples collected from 12 soil borings installed within historic footprint of Barth Smelting facility
- Entire property at 99 Chapel Street is capped with either asphalt paving or concrete
- Bare soil present in a raised garden bed along property boundary
  - Soil samples collected in raised garden bed had very low concentrations of lead
- Elevated levels of lead found beneath paving ranging from 66 ppm to **11,000 ppm**

## Barth Smelting Site Investigation





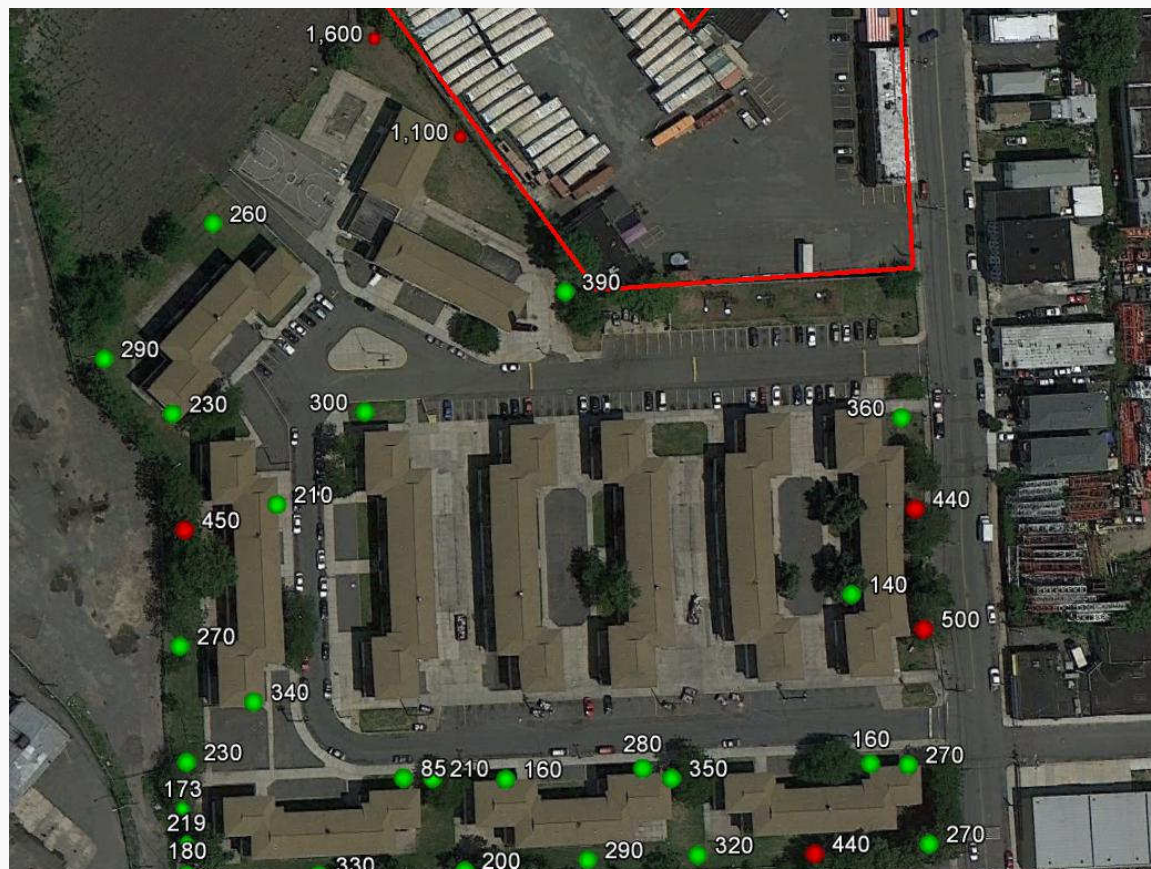
- **March 29-April 1:** Terrell Homes soil sampling conducted
- 24 Soil borings installed in unpaved areas throughout Terrell Homes
- 6 soil borings installed through asphalt in rear paved lot
  - Apartment entrances
  - Bare soil areas

## Barth Smelting Site Investigation





## Barth Smelting Site Investigation



March/April 2013, EPA soil sampling event

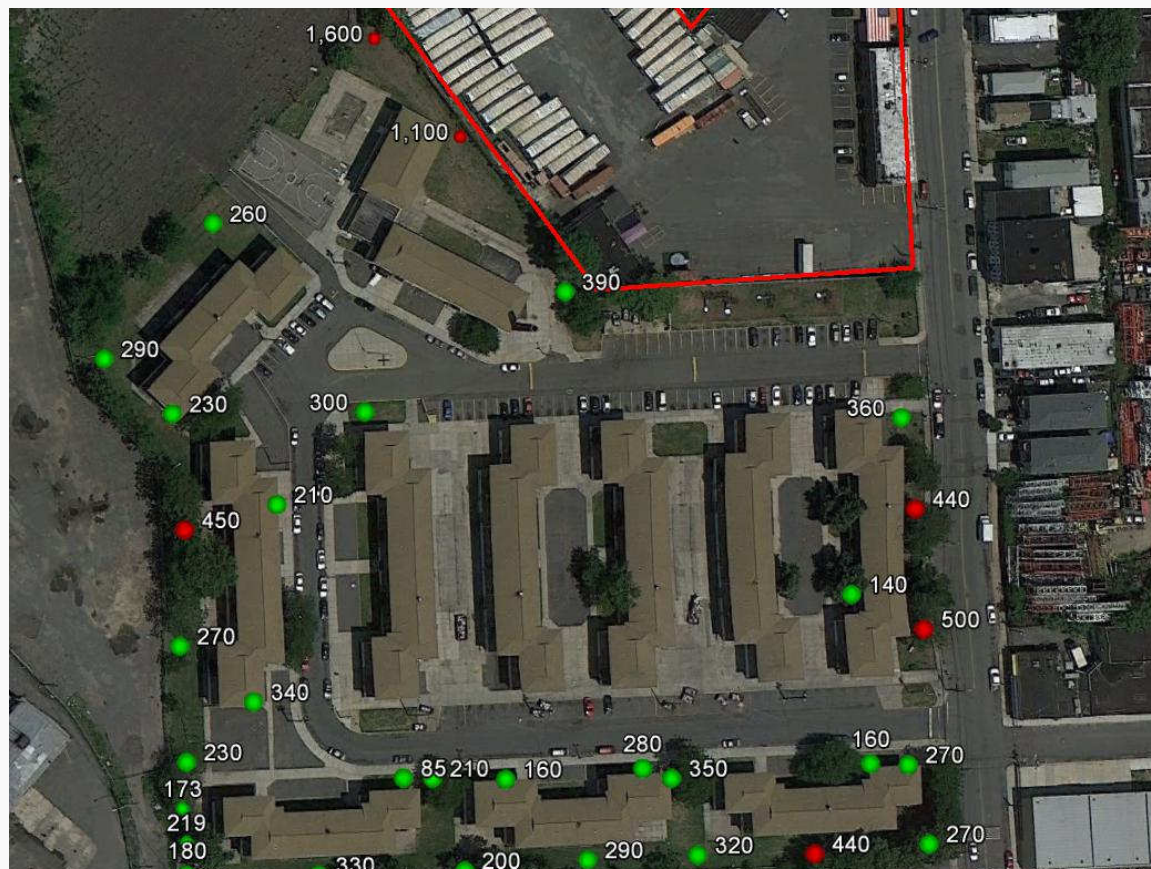


## Barth Smelting Site Investigation

- Lead greater than 400 ppm detected in the grassy area next to the Community Building, near the basketball court and sprinkler park
- Two soil samples collected in this area
  - 0-1" depth = 1,600 and 1,100 ppm lead
  - 1-6" depth = 1,200 and 1,500 ppm lead
- Remainder of samples collected at Terrell Homes were below background lead concentrations
- Average concentration of lead in top 1" of soil throughout the unfenced area of Terrell Homes = 280 ppm



## Barth Smelting Site Investigation



March/April 2013, EPA soil sampling event



## Barth Smelting Site Investigation

- It is NOT uncommon to find lead in urban settings
- Large cities tend to have many sources of lead
- Sources of lead include:
  - Industry
  - Lead based paint
  - Leaded gasoline





## Barth Smelting Site Investigation

- Temporary construction fencing installed on May 10, 2013
- More permanent temporary chain link fence installed on May 13, 2013
- Additional sampling to further evaluate the area





## Barth Smelting Site Investigation



- May 15-16, 2013: Additional soil sampling in grassy area behind the Community Building



## Barth Smelting Site Investigation



12/3/2013

0-1" depth interval



## Barth Smelting Site Investigation



12/3/2013

1-6" depth interval



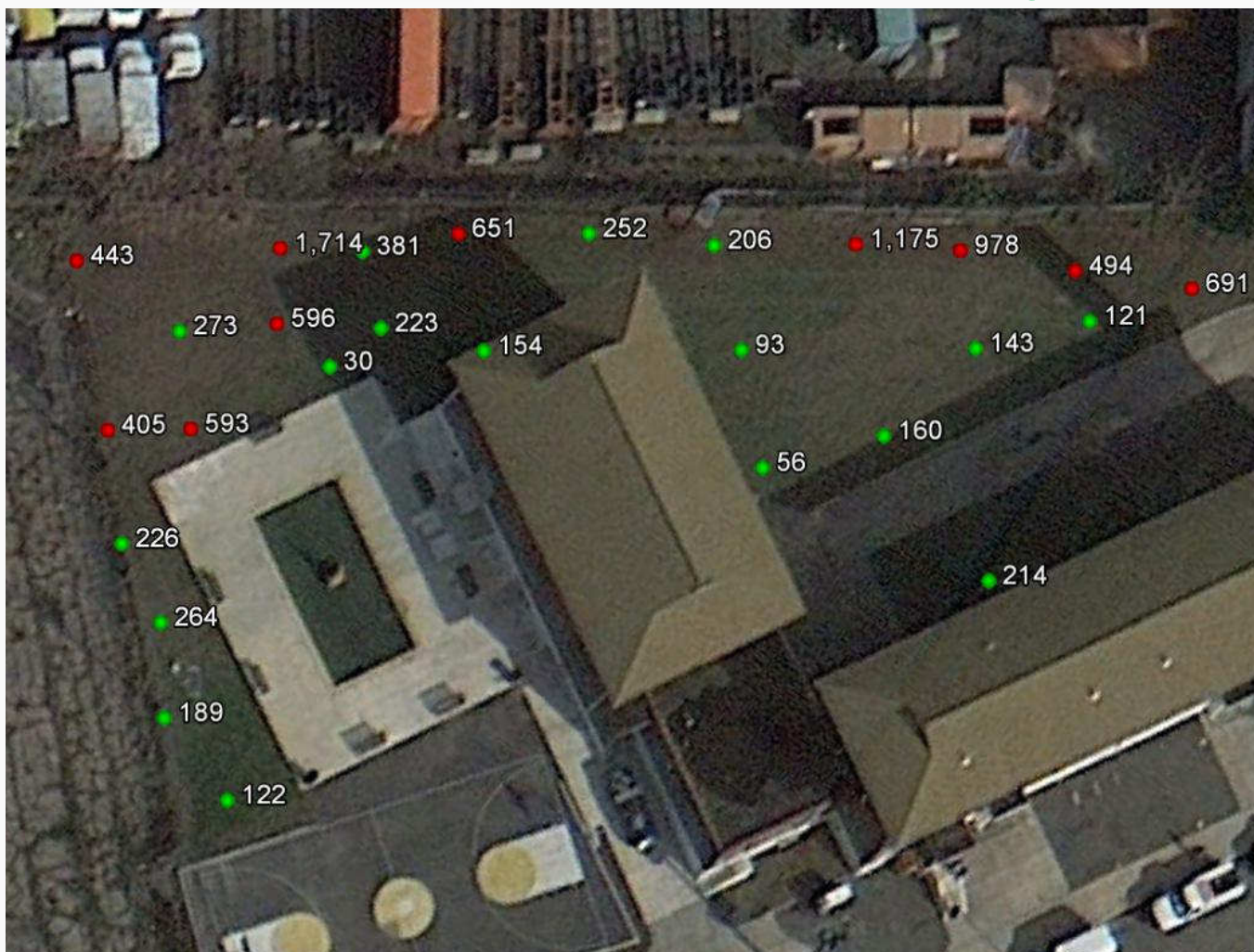
## Barth Smelting Site Investigation



6-12" depth interval



## Barth Smelting Site Investigation



12/3/2013

12-18" depth interval



## Barth Smelting Site Investigation



12/3/2013

18-24" depth interval



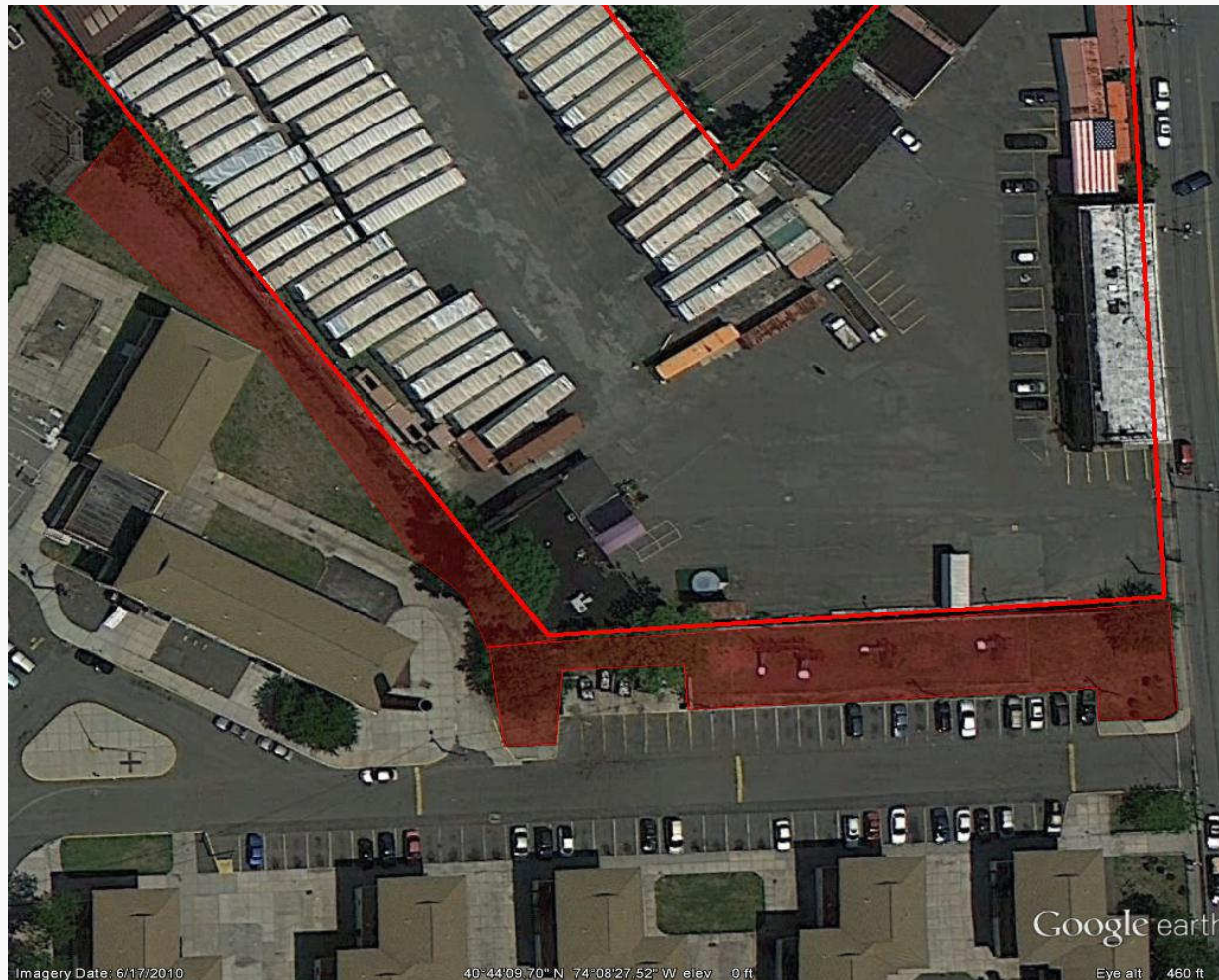
## Barth Smelting Site Removal Action



- **EPA's NEXT STEPS**
- Excavation of top one foot of lead-contaminated soil in fenced areas
- Community air monitoring
- Restoration of excavated area



## Barth Smelting Site Removal Action



12/3/2013

Proposed excavation area



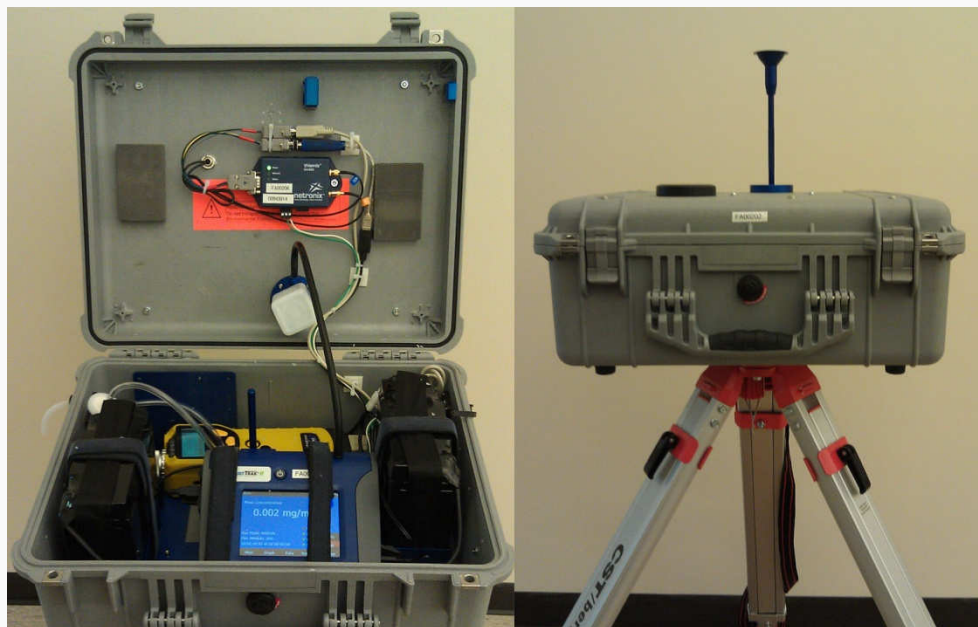
## Barth Smelting Removal Action



Dust suppression techniques will be employed  
during all soil activities



## Barth Smelting Site Removal Action



Air monitoring will be performed at the fence line



## Barth Smelting Site Removal Action



Workers performing the soil work will be wearing personnel air samplers



## Barth Smelting Site Removal Action



A retaining wall and/or curbing will be constructed along the fence line



## Barth Smelting Site Removal Action



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Grass seed application after soil removal is completed



## Barth Smelting Site Removal Action



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Trees will be planted in the Spring



## **Barth Smelting Site Removal Action**

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**[www.epaosc.net/barthsmelting](http://www.epaosc.net/barthsmelting)**

**[www.epa.gov/region2/superfund/removal/  
barth/index.html](http://www.epa.gov/region2/superfund/removal/barth/index.html)**